Security Management System
Configuring Signalway LPR Solution Interface

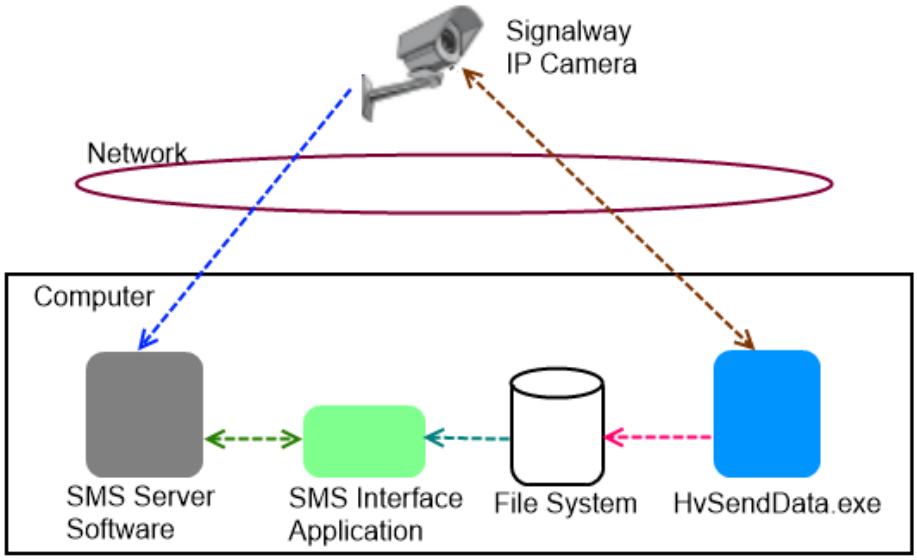
Introduction

Security Management System software is a true open platform VMS software solution. It provides interface for integration with several cameras, encoders, DVRs, video sources, CCTV keyboards, access control systems, building management systems, fire alarm systems, fence control systems, PLCs, 3rd party video analytics solutions, 3rs party face recognition solutions, 3rd party license plate recognition systems etc.

This document describes the steps to configure the integration between 'Security Management System server' software and 'Signalway license plate recognition' solution.

Integrated System design

The integrated system works as follows –



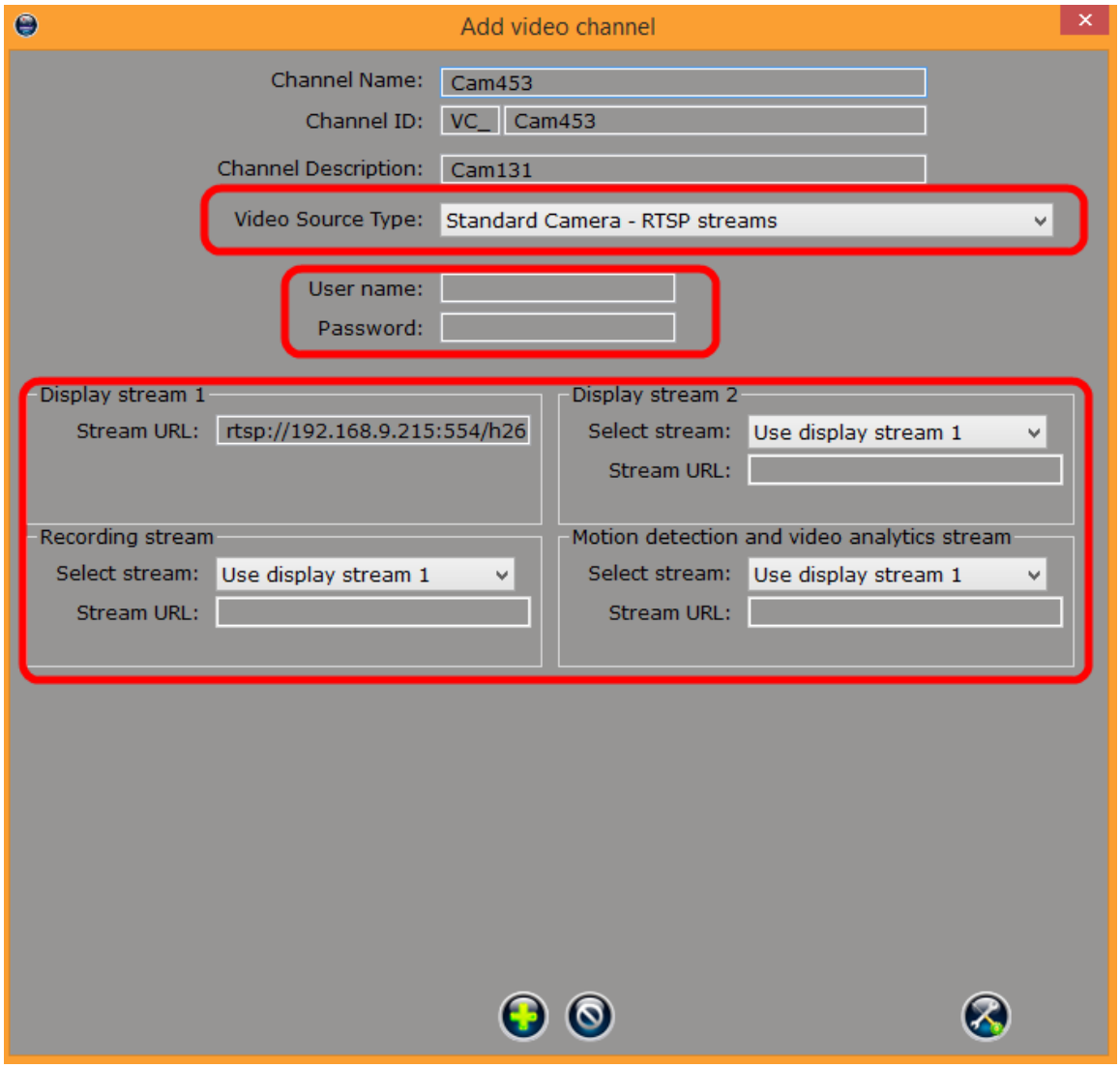
1. HvSendData.exe is application available from Signalway.
2. HvSendData.exe is executed on same computer where 'Security Management System server' software is installed. It communicates with the Signalway IP camera independently.
3. 'Security Management System server' software is installed on same computer. The Signalway IP camera is added to 'Security Management System server' software as a normal video source. 'Security Management System server' software communicates with the Signalway IP camera independently.
4. 'Security Management System server' software installer includes 'SMS Integration Application'. This application runs on same computer where 'Security Management System server' software is running.
5. HvSendData.exe saves images to a pre-defined directory on the computer. The 'SMS Integration Application' reads the saved images and parses the 'license plate' information.
6. 'Security Management System server' software communicates with the 'SMS Integration Application'

Configuring 'Security Management System server' software

1. Execute 'Security Management System Server' software.

2. Add required cameras to 'Security Management System Server' software. One of these cameras should be the Signalway IP camera used for 'License Plate Detection'. It is the same camera which is accessed by the HvSendData.exe independently.

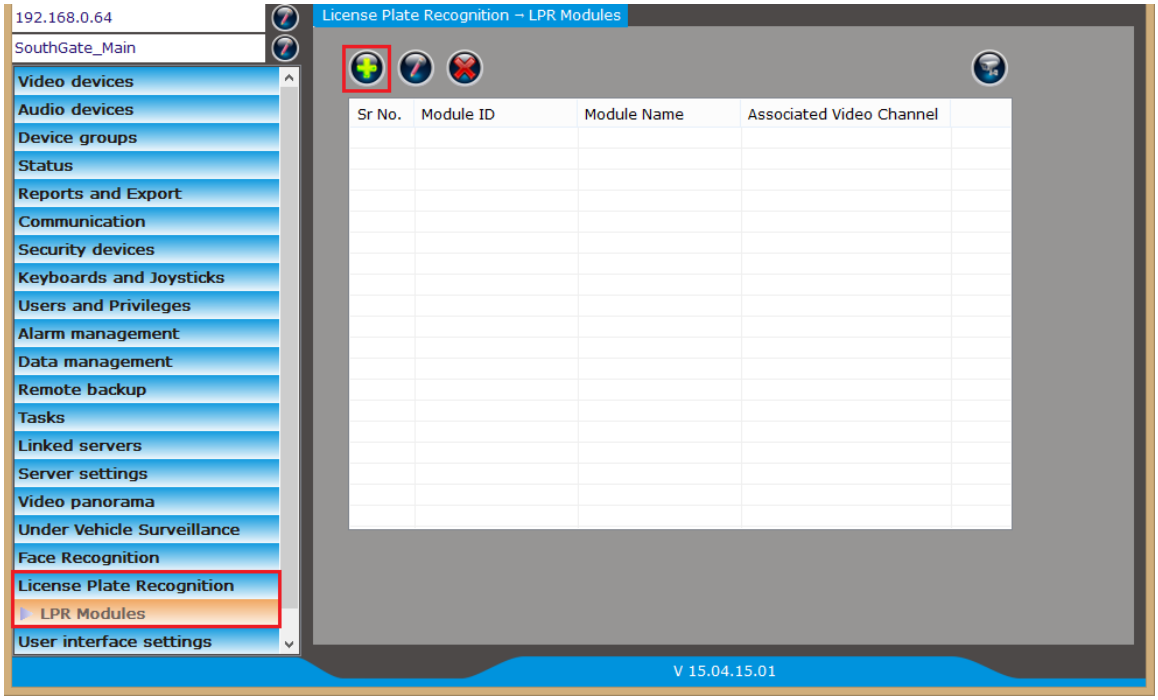
   Signalway IP camera can be added to 'Security Management System Server' software for monitoring, as 'Standard Camera – RTSP Streams' video source with following parameters –



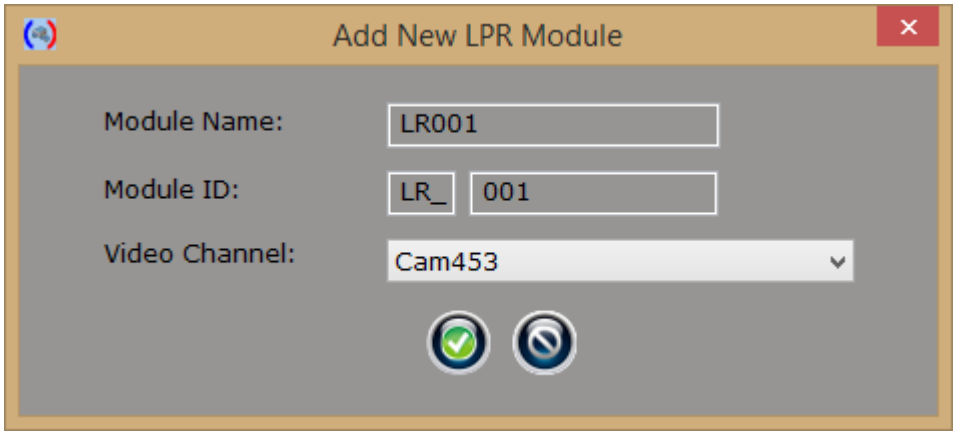
(a) User name – camera login user name (may be blank)
(b) Password – camera login password (may be blank)

(c) Display stream 1 - rtsp://<IPAddress>:554/h264ESVideoTest – where <IPAddress> is the target camera's IP address
(d) Display stream 2 – set as 'Use display stream 1'
(e) Recording stream - set as 'Use display stream 1'
(f) Motion detection and video analytics stream - set as 'Use display stream 1'

3. Navigate to the 'License Plate Recognition -> LPR Modules' page from the left-hand side navigation menu.



4. Click on the 'Add LPR module…' button. This will pop-up the 'Add New LPR Module' dialog box.

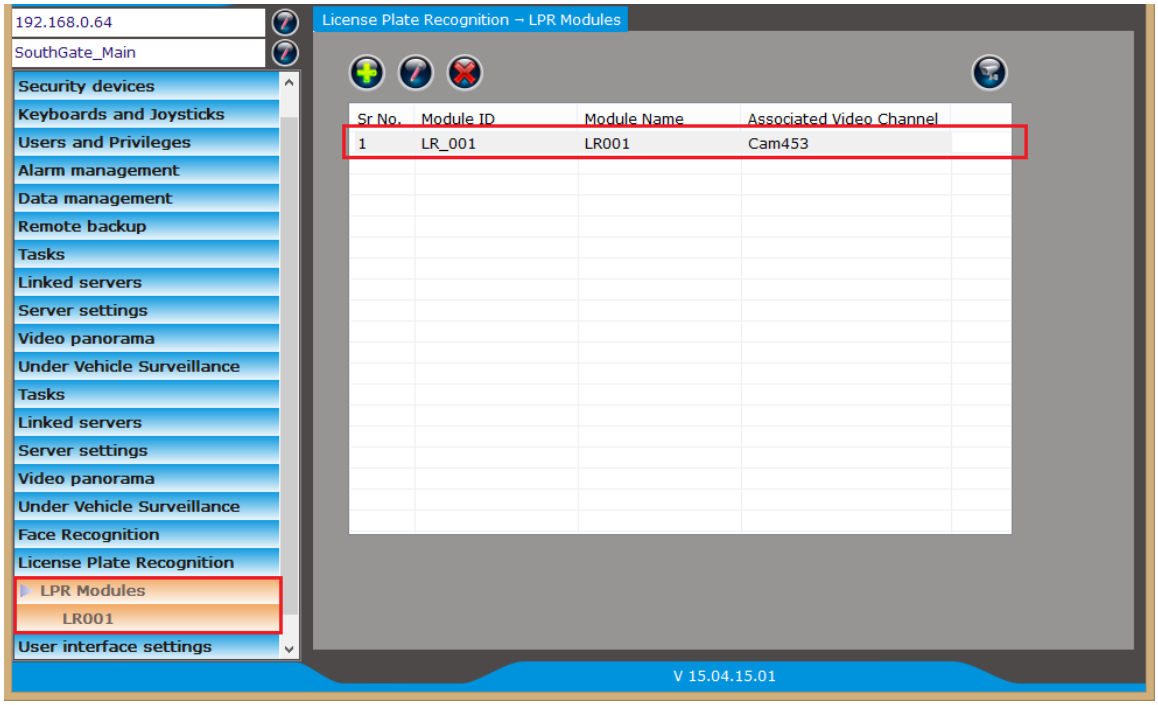


5. Provide the required inputs on the 'Add New LPR Module' dialog box.

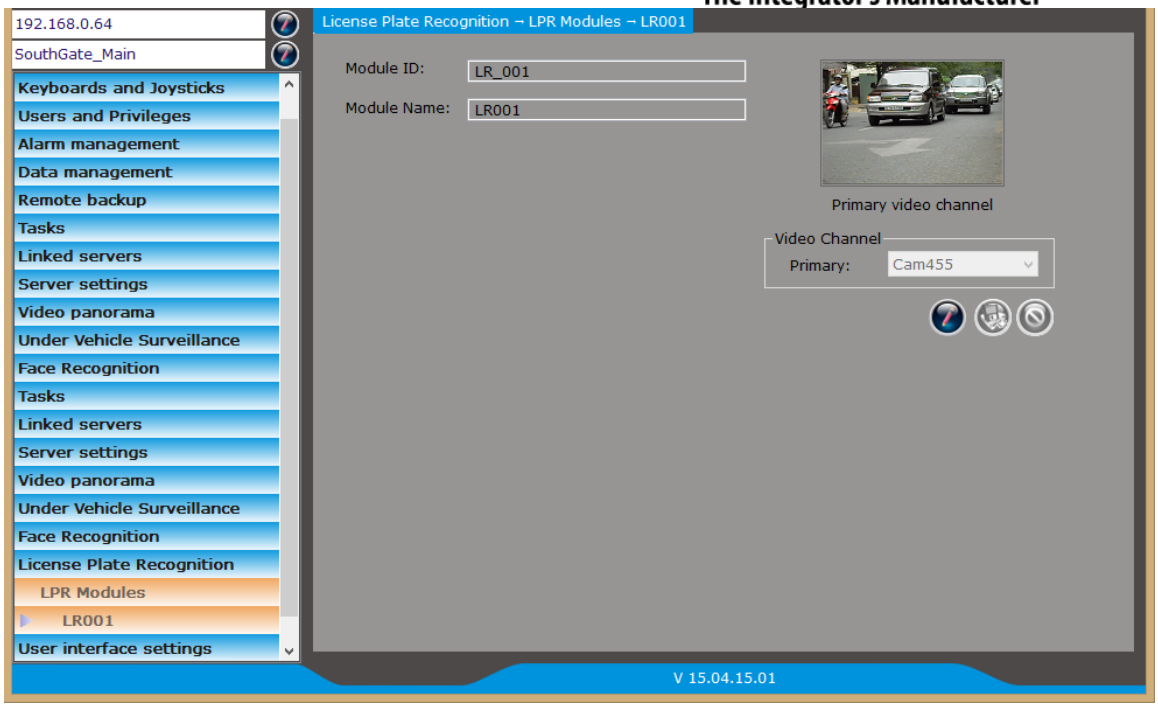
(a) 'Module Name' can be any unique string consisting of the character and number which can be used for uniquely identifying the LPR module in the 'Security Management System server' software.
(b) 'Module ID' is unique string which is internally used by the 'Security Management System server' software.
(c) Please select 'Video Channel' which is same Signalway IP camera used by HvSendData.exe

6. Click on the 'OK' button to finish adding the LPR module

7. The newly added LPR module will be then displayed in list of the LPR Modules



8. A separate link will be available for each of the added LPR modules. Clicking in the link will show the information about the LPR module, the video of the associated video channel. Video from the associated video channel will also be displayed on this page. If required, the associated video channel can be changed.


192.168.0.64
SouthGate_Main
Keyboards and Joysticks
Users and Privileges
Alarm management
Data management
Remote backup
Tasks
Linked servers
Server settings
Video panorama
Under Vehicle Surveillance
Face Recognition
Tasks
Linked servers
Server settings
Video panorama
Under Vehicle Surveillance
Face Recognition
License Plate Recognition
LPR Modules
LR001
User interface settings
License Plate Recognition – LPR Modules – LR001
Module ID:
LR_001
Module Name:
LR001
Primary video channel
Video Channel
Primary:
Cam455
V 15.04.15.01

Configuring 'HvSendData.exe'

Note – please refer to Signalway documentation for details on configuring HvSendData.exe

1. Please download the HvSendData release ZIP file from Signalway

2. Copy it on the same computer where 'Security Management System Server' software is installed.

3. Unzip the file

4. Open 'HvConfig.ini' file from the unzipped content, in notepad. Edit the camera connection parameters, to match the deployment set up. Save the file and close it.

5. Execute 'HvSendData.exe' from the unzipped content.

6. Let the 'HvSendData.exe' run for some time. As LPs get detected, images will be saved in the specified path.

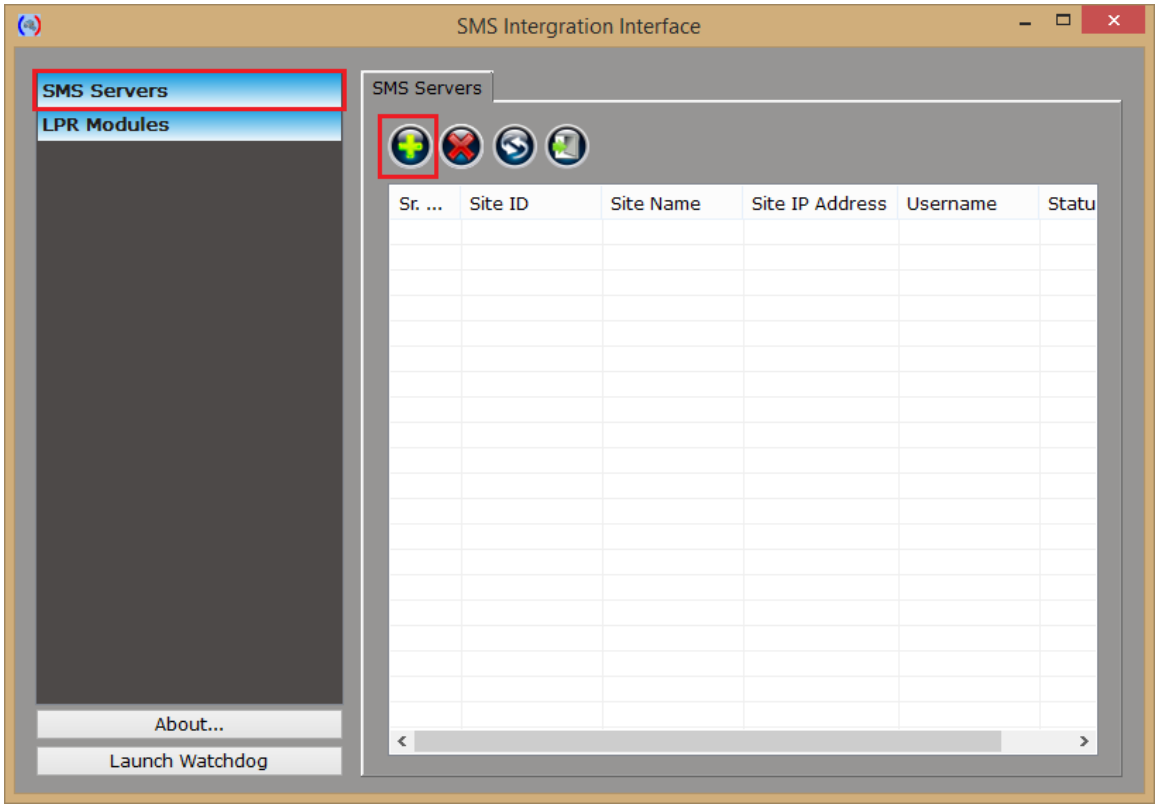
   The specified path is '<BaseDirPath>\<CameraName>' -
   Where –
   <BaseDirPath> is the value for parameter 'SavePath' defined in 'HvConfig.ini' file for the target Signalway camera.
   <CameraName> is the camera name.

   Please note this 'specified path', as it will be used as input parameter while configuring 'SMS Interface application' as described in the next section

7. If images are not getting saved in the specified path, please re-check the configurations and resolve the issues.
   Note – It is important to confirm that images get saved in the specified path. If images do not get saved, the integration with 'Security Management System' will not work.

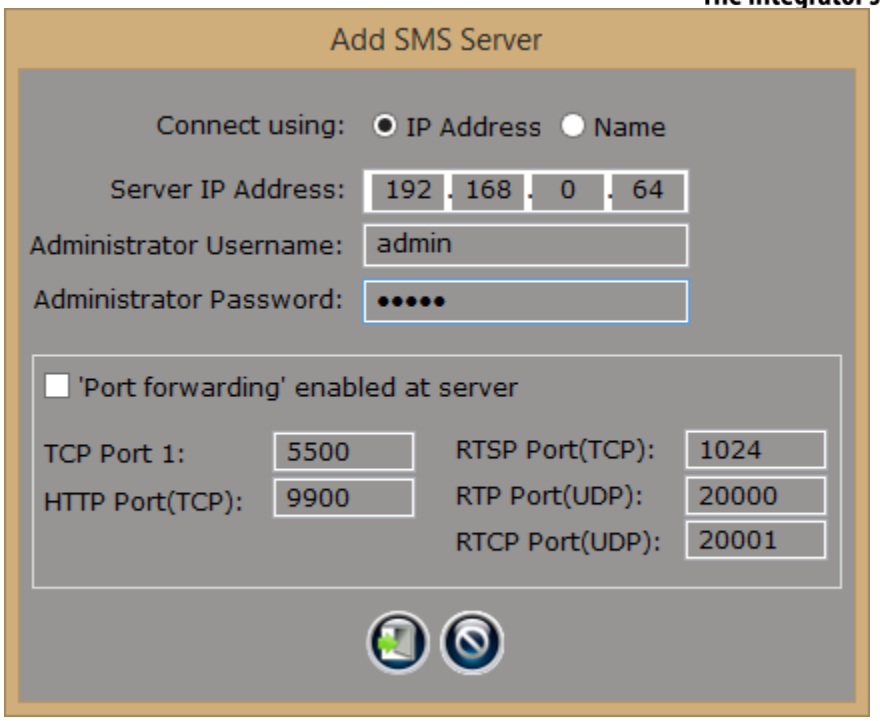
Configuring ‘SMS Integration Interface’ Application

1. Execute ‘SMS Integration Interface 2’ application from the programs menu shortcut ‘Security Management System -> Server -> Extension Apps -> SMS Integration Interface 2’

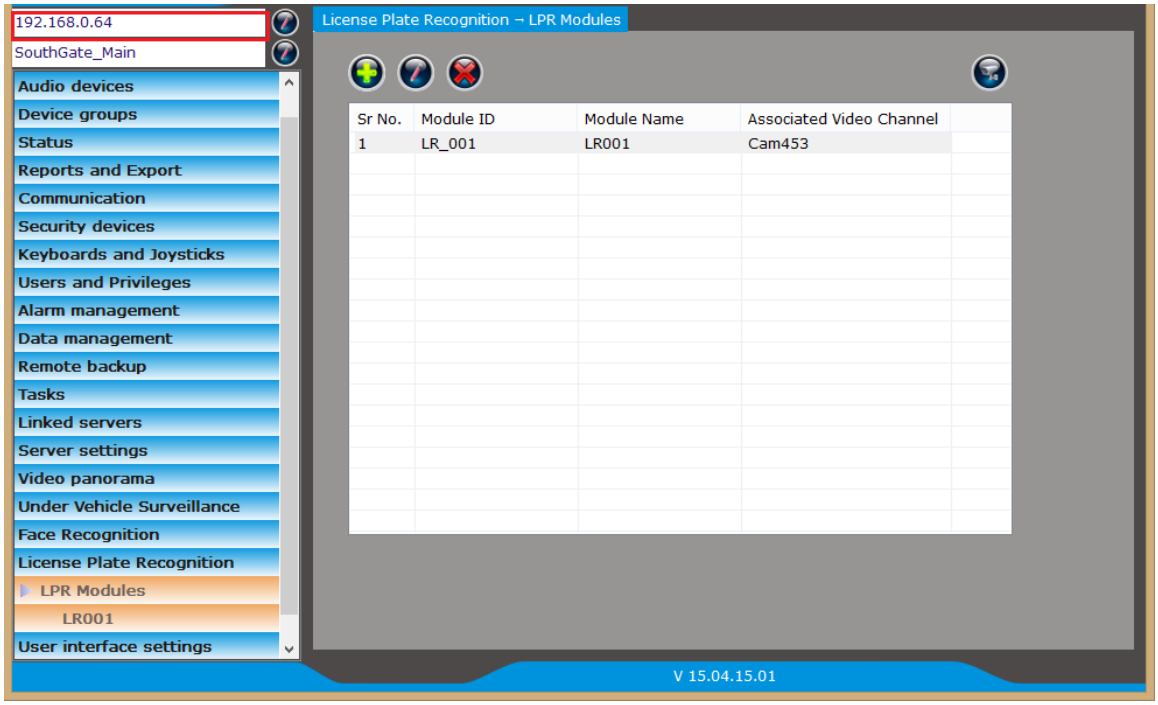


2. Navigate to the ‘SMS servers’ page from the left-hand side navigation menu

3. Click on the ‘Add new site’ button to add a new ‘Security Management System server’. This will pop up ‘Add SMS server’ dialog box

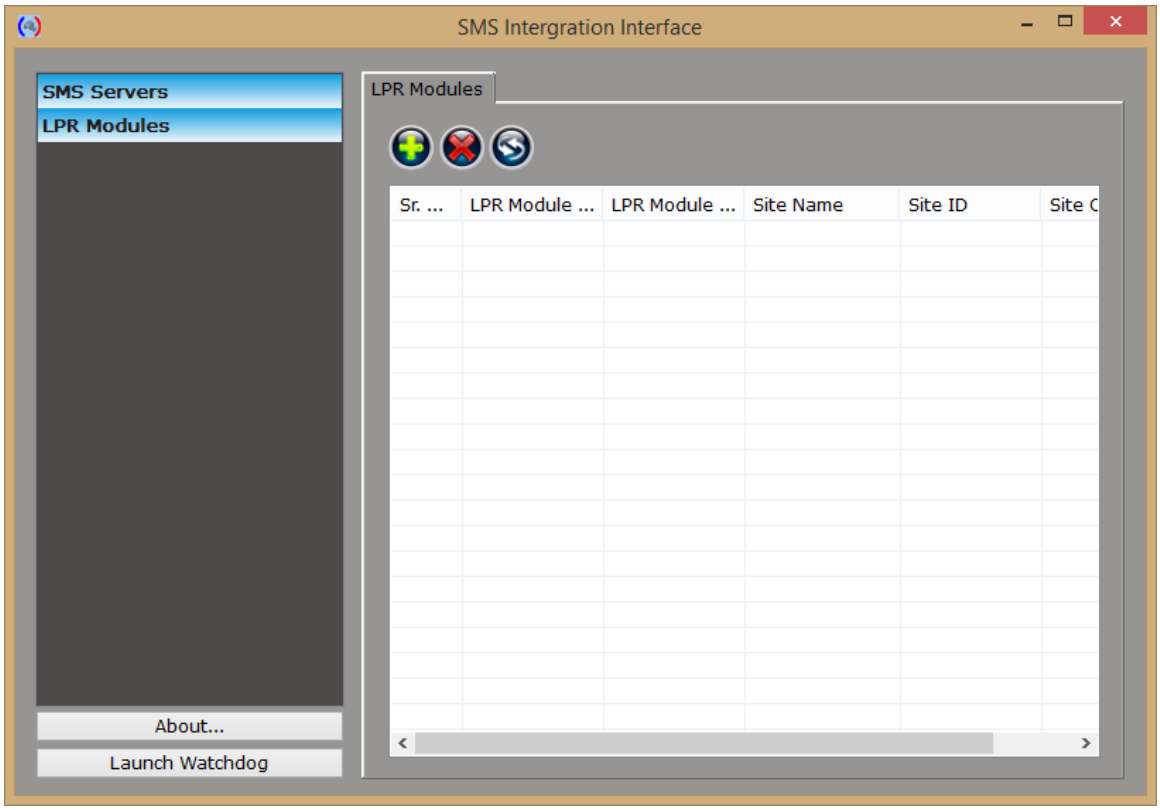


4. Type the IP address and port number of the 'Security Management System server' software.
   (a) 'Security Management System server software' IP address is displayed at the top-left corner in the 'Security Management System server' software.
   (b) Port number is always 5500

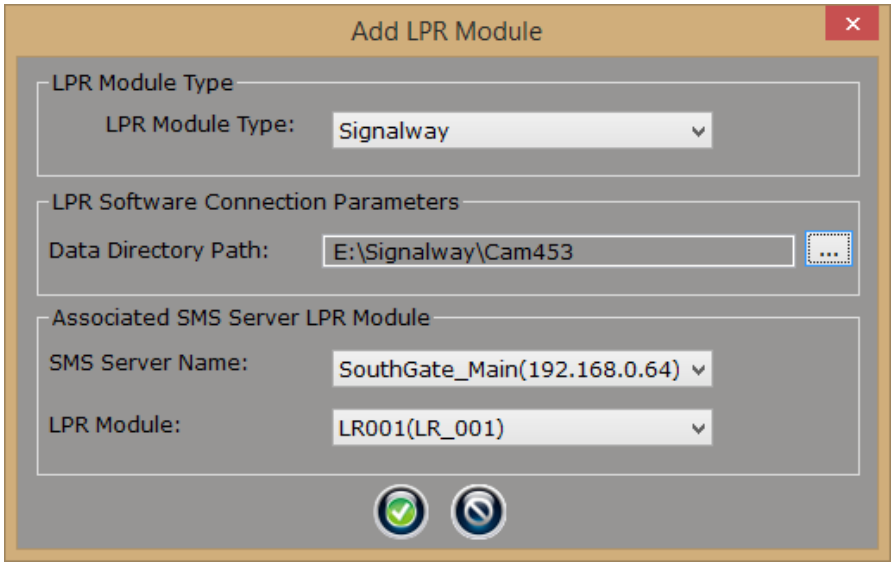


5. Type the user name and its password to connect to the 'Security Management System server'. This user should have 'Administrator' privilege in the 'Security Management System server' software.

6. Navigate to the 'LPR Modules' page from the left-hand side navigation menu



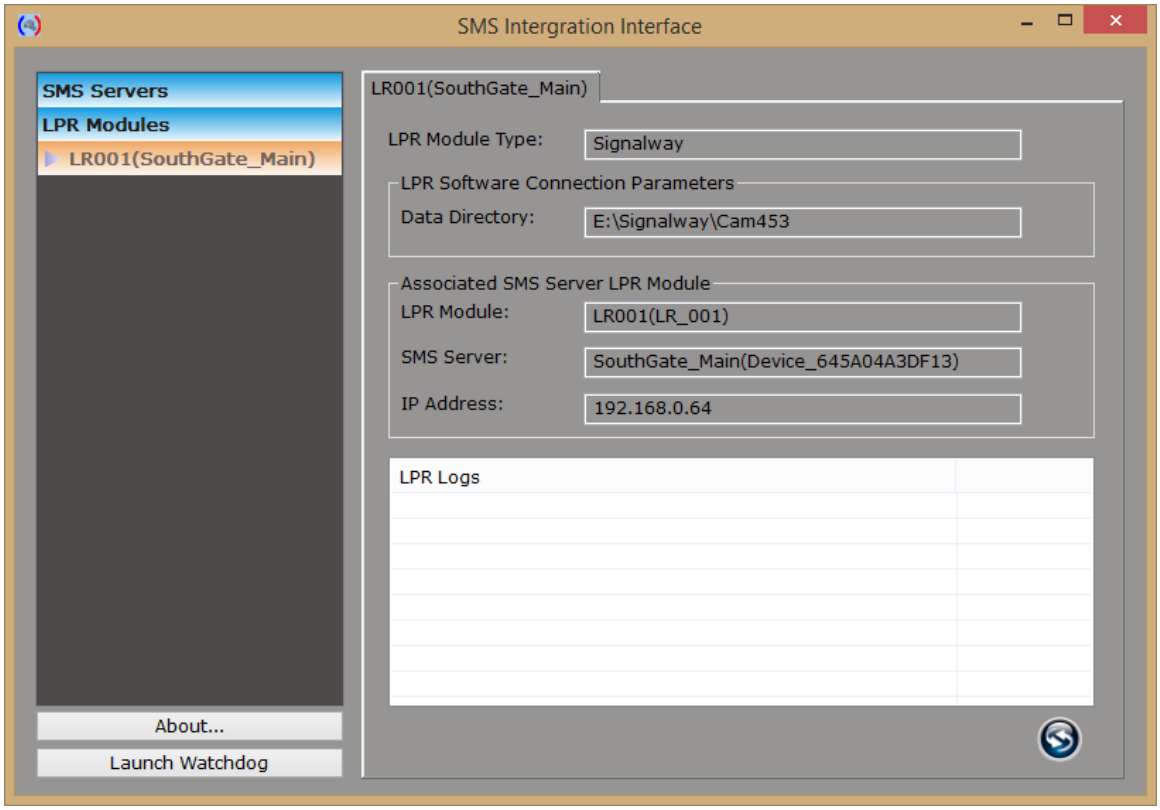
7. Click on the 'Add' button to add a new LPR Module. This will pop up 'Add LPR Module' dialog box



8. Provide the parameters –
   (a) Select ‘LPR Module Type’ as ‘Signalway’
   (b) Under ‘LPR Software Connection parameters’, set the ‘Data Directory Path’ by browsing to the directory where the HvSendData.exe creates the data related to the target Signalway IP camera. (This is same path mentioned as ‘specified path’ in the ‘Configuring HvSendData.exe’ section in this document.)
   (c) Select the target ‘SMS server’ from the dropdown menu. When the SMS server selection is changed, the ‘LPR Module’ dropdown list will get refreshed displaying ‘LPR modules’ available in the selected ‘Security Management System server’
   (d) Select the target LPR module.

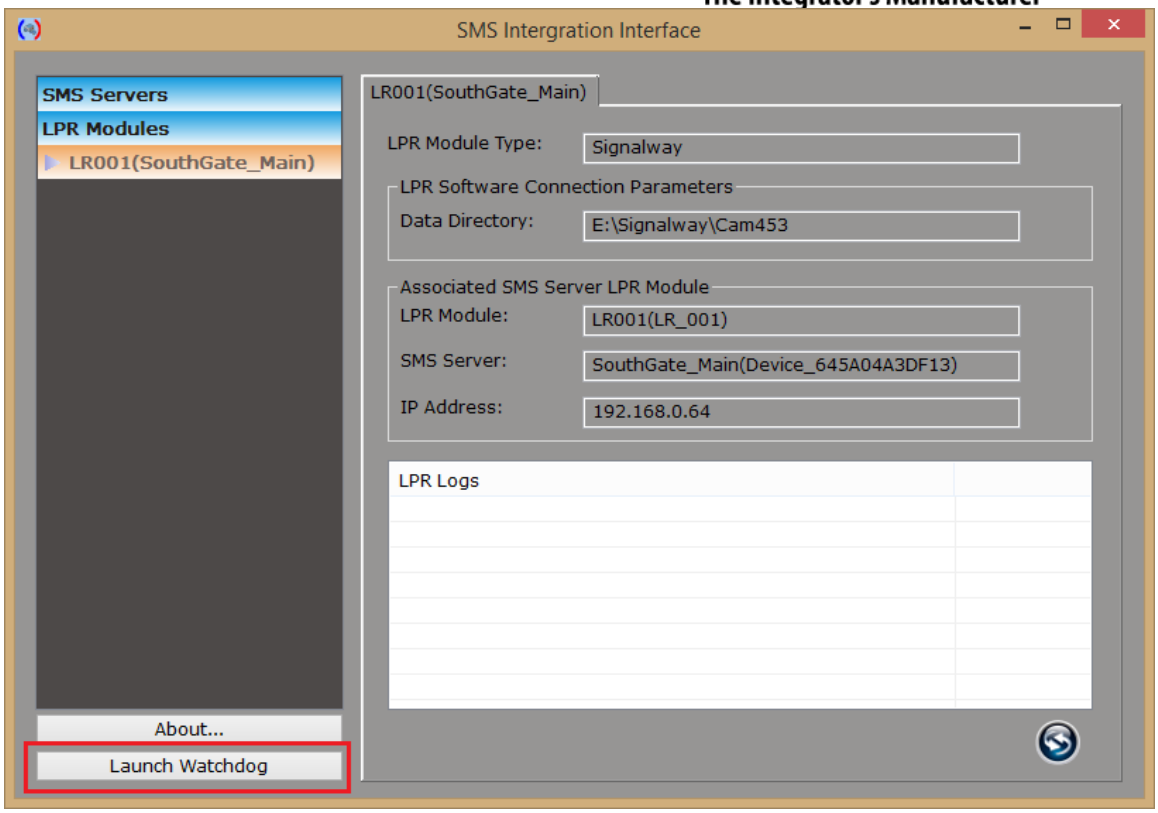
9. Click on the ‘OK’ button to finish adding the LPR module.

10. Click on LPR Module name on left hand side navigation menu



11. ‘LPR Logs’ list will display recent communication between associated software modules.

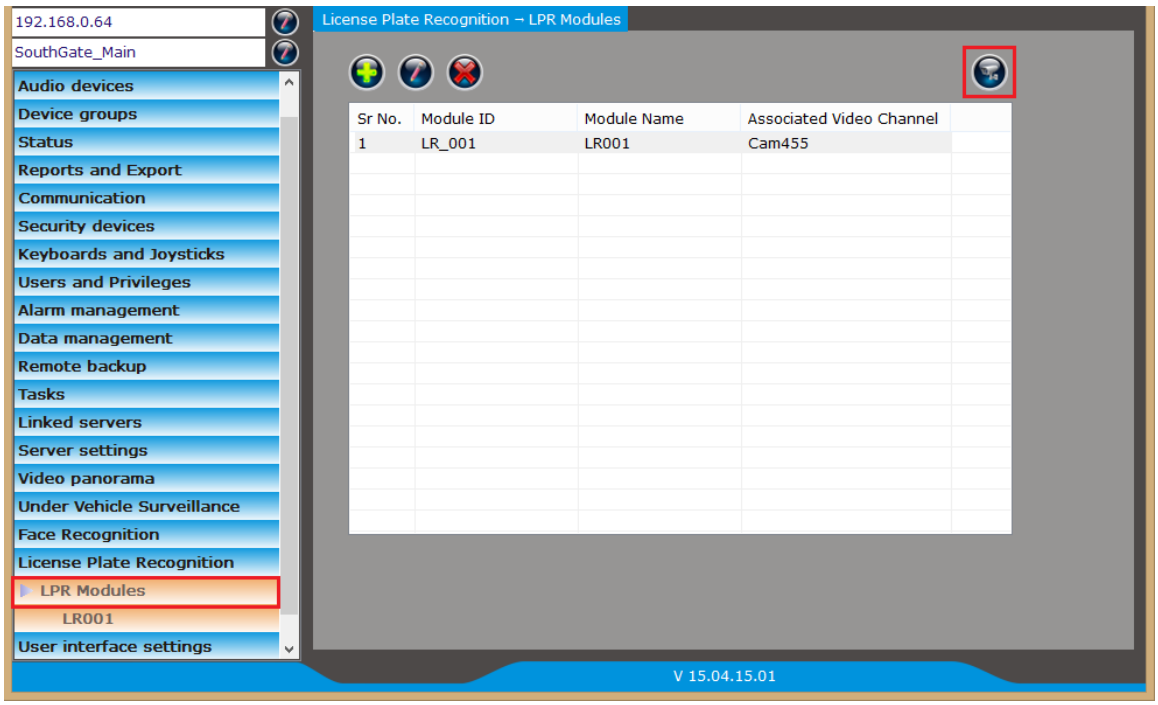
12. If the software is being set up for deployment, please click on the ‘Launch watchdog’ button to start the watchdog application.



A confirmation message box will be displayed. Click on the 'Yes' button to accept and to launch the watchdog application.
Once watchdog application is started, it will also get added to computer's start-up. Hence watchdog and the 'SMS Integration Interface 2' will start automatically after computer reboot.

License Plate Detection Monitor Screen

1. In ‘Security Management System server’ software, navigate to the ‘License Plate Recognition -> LPR Modules’ page from the left-hand side navigation menu.

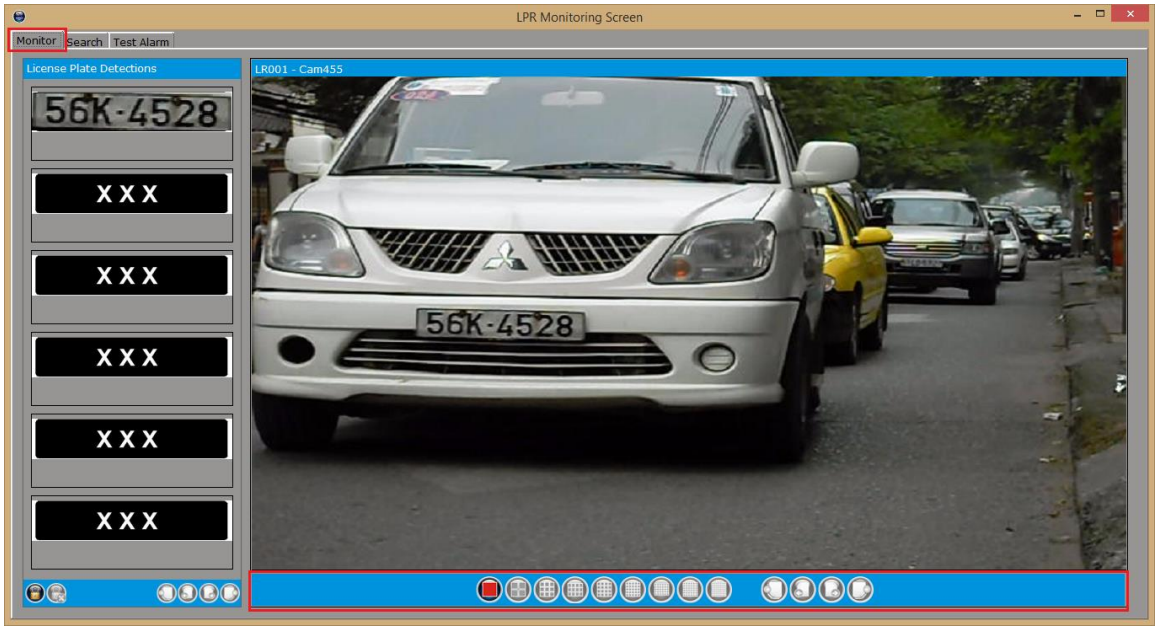


2. Click on the ‘View Monitor Screen’ button to open the LPR monitoring screen.

3. The monitor screen has 3 tabs – ‘Monitor’, ‘Search’ and ‘Test Alarm’

Monitor tab

1. The ‘Monitor’ tab has following user interface elements -



   (a) Live video display: Which displays live video feeds for the associated LPR modules on the right side of the screen. The video toolbar can be used to control the video displays.

   (b) License Plate Detections: Which is available on the left side of the screen and displays the list of detected license plates. Right click on any of the detected license plate images and select ‘LPR Event Details…’ to view the ‘details window’ displaying larger size images and the details about the license plate.

2. ‘License Plate Detections’ list will be refreshed real-time and display the latest detections.

3. To view earlier alarms from these lists, please click on the ‘Freeze’ button available in the control toolbar below the lists. This will enable the page navigation in the list.

4. The real-time list refresh will get disabled while ‘Freeze’ is in action. Please click on the ‘Unfreeze’ button to returns to the real-time view mode.

Search Tab

1. The 'Search' tab has following user interface elements –

(a) Search Parameters section: Which is available on the left hand side. Search parameters can be provides in this section and new search can be initiated.

   i. Search Time Duration – to specify the search time duration 'From' time to 'To' time
   ii. License Plate Number – It supports wild card search by typing * character as wild card search string. Typing * as search string returns all detected license plates in selected time duration.
   iii. Vehicle Details – Extra search parameters can be provided including type of vehicle and speed.
   iv. LPR Modules – it is possible to select one or more LPR modules which will be included in the search operation.
   v. 'Search' button is available at the bottom of this section. Clicking on the 'Search' button performs the search operation and displays the search results

(b) Search Results section: Which displays the search results, as a list.
   i. Any of the search result can be clicked to view the recorded video associated with license plate detected.
   ii. Page navigation buttons are available at the bottom of the search results list.
   iii. Right click on search result and select 'LPR Event Details…' to view 'Details window' which displays larger size image and extra information about detected license plate.

Test Alarm tab

The ‘test alarm’ tab is not used during normal operations. It is used during configuration and fine tuning of the system, for generating test / dummy data.